REMARKS

In view of the above amendments and the following remarks, reconsideration of the objections and rejections contained in the Office Action of May 26, 2009 is respectfully requested.

The Examiner objected to claim 17 and claim 23 due to minor informalities. However, independent claim 17 and dependent claim 23 have both now been amended so as to address these informalities, and thereby overcome the Examiner's objections. Because these amendments do not introduce any new matter, and do not change the scope of the claims, the Examiner is requested to enter the amendments to the claims.

In addition to the above objections, the Examiner also rejected all of the pending claims 17-25 as being unpatentable over the Conley reference (U.S. Publication 2003/0089553) in view of the Davis reference (USP 2,550,535). However, these rejections are traversed. For the reasons discussed below, it is submitted that the previously-pending claims, including independent claim 17, are clearly patentable over the prior art of record.

In setting forth the prior art rejections, the Examiner asserted that the Conley reference teaches all of the elements of claim 17, including a dispensing piston 25, a metering chamber 27, a second return spring 79, and a hollow supporting body 117. However, the Examiner acknowledged that the Conley reference does not disclose that the hollow supporting body 117 is arranged between a first return spring and a second return spring, as required by independent claim 17.

Although not acknowledged by the Examiner, the Conley reference also fails to teach or suggest several other important features of independent claim 17. In particular, the Conley reference does not teach or suggest:

(1) a second return spring *for applying a pressure against a dispensing piston to oppose pressure from a lubricant within the metering chamber*. Instead, the differential piston 25 is moved by pressure from a lubricant located within a pressure chamber 29 as will be discussed in more detail below, and there is no spring that applies pressure against differential piston 25; or

(2) a dispensing piston operable to move within said housing from a dispensing piston starting position, whereat a volume of said metering chamber is a *minimum*, to a dispense position, whereat said dispensing piston *has displaced the lubricant present in said dispensing*

chamber through said lubricant outlet. This omission becomes evident when considering that reference number 27 actually identifies a *measuring* chamber, rather than a metering chamber as in the present invention, while reference number 25 identifies a *differential* piston, rather than a dispensing piston as in the present invention. These differences indicate that these components are structurally arranged in a significantly different manner to perform different functions than required by independent claim 17. Although the Examiner appeared to dismiss these functional limitations as mere "intended use," this language instead simply describes the structure of the distributor element in an alternate manner. In other words, the prior art must have a structure which can perform the recited function in order to meet this claim limitation. In this regard, Figure 5 illustrates differential piston 25 in a piston starting position, in which the volume of the measuring chamber 27 (metering chamber as suggested by the Examiner) is a *maximum*, rather than a minimum as required by claim 17 (see paragraphs [0047 through 0048] of the original specification). Subsequently, the differential piston 25 moves from the starting position to a dispense position shown in Figure 6 to displace the lubricant in the dispensing (discharge) chamber 49 through the lubricant outlet (see paragraph [0049] of the original specification). At the dispense position show in Figure 6, the volume of the "metering" chamber (actually, a measuring chamber) 27 is at a minimum, in direct contrast to the requirements of claim 17. As noted above, this difference is because chamber 27 is <u>not</u> a metering chamber as suggested by the Examiner, but instead is a measuring chamber, and therefore is structurally linked to piston 25 to perform a different function than required by claim 17.

In an effort to correct the deficiencies in the Conley reference, the Examiner applied the Davis reference as teaching a hollow supporting body 154, 170 located between a first return spring 168 and a second return spring 172 such that the hollow supporting body 154, 170 supports and provides leverage for each of the return spring 168 and the second return spring 172. However, even assuming for the moment that the Davis reference can be combined with the Conley reference as suggested by the Examiner, the Davis reference in combination with the Conley reference still <u>does not</u> teach features (1) and (2) of independent claim 17, as noted above. Thus, for these reasons alone, it is submitted that the combination of the Conley reference and the Davis reference does not render independent claim 17 obvious.

However, it is further submitted that the Davis reference cannot even be combined with the Conley reference as suggested by the Examiner. In this regard, on page 5 of the Office

Action, the Examiner asserted that it would be obvious to one of ordinary skill in the art to make the supporting body of the Conley reference (valve extension 117) as hollow as the supporting body taught by the Davis reference, and then to arrange the modified supporting body of the Conley reference (valve extension 117) between "the springs" (presumably the first return spring 77 and second return spring 79) as taught in the Davis reference because such a modification is a mere engineering design choice. However, the Applicants *strongly* disagree, and assert that such a modification would completely change the principle of operation of the Conley reference, as explained below.

The importance of the arrangement of the springs and the effects of the Examiner's proposed modification can best be appreciated by first considering the function of the springs, the dispense piston, and the hollow supporting body. In the present invention, a hollow cylindrical supporting body 12 is arranged between a first return spring 7 and a second return spring 10, as illustrated in Figure 1. The second return spring 10 applies pressure against a dispensing piston 9 (by contacting the lower surface of the dispensing piston 9) so as to oppose pressure from lubricant located within the metering chamber 4. When the dispensing piston 9 is lowered against the force of the second return spring 10 due to the lubricant pressure in metering chamber 4, the dispensing piston 9 is moved to a dispense position so as to displace the lubricant in the dispensing chamber 3. When the pressure in the metering chamber 4 decreases, however, the force of the second return spring 10 supported by the hollow supporting body 12 will force the dispensing piston 9 upward to thereby minimize the size of the metering chamber 4. Thus, the second return spring 10 returns the dispensing piston 9 to a starting position after the dispensing piston 9 has dispensed the lubricant in the dispensing chamber 3. In other words, the position of the dispensing piston is carefully balanced and controlled by the action of the second return spring 10 acting against the lubricant pressure in metering chamber 4.

In contrast, the Conley reference has a completely different method of operation, and therefore cannot so easily be modified as suggested by the Examiner by simply incorporating the hollow supporting body of the Davis reference. As noted above, reference number 25 of the Conley reference identifies a *differential* piston, rather than a dispensing piston as noted by the Examiner. This distinction is important in view of the function of the piston 25. In particular, the differential piston 25 moves based on the *differential pressure* of the lubricant in the pressure

chamber 29 and the lubricant in the metering chamber 27, and there is no spring which applies pressure against this piston 25.

When the valve piston 75 of the Conley reference is in the first position as shown in Figure 4, lubricant enters the measuring chamber 27 located at the top end of differential piston 25 through inlet 43 and passages 109, 107a, 99, and 95. The resulting pressure in the measuring chamber 27 forces piston 25 downward against the lubricant pressure in pressure chamber 29 so as to minimize the size of the pressure chamber 29 (see paragraph [0050]). When the valve piston 75 is in the second position as shown in Figure 6, however, the flow of lubricant from the inlet 43 to the measuring chamber 27 is blocked by the position of the valve piston 75, and so the lubricant fills the pressure chamber 29. Simultaneously, the measuring chamber 27 is made to communicate with the outlet port 45 via the passages 95 and 97, boar 93, and dispensing chamber 49. Therefore, the pressure in the pressure chamber 29 becomes greater than the pressure in the measuring chamber 27 so as to push the differential piston 25 upwards to discharge the lubricant from the measuring chamber 27 (see paragraph [0047] on page 5). Thus, the valve piston 75 and the series of passages cooperate with the pressure chamber 29 and the measuring chamber 27 so as to set a differential pressure which ultimately moves the differential piston 25 between a lower starting position and an upper discharging position *without* using any springs.

Attempting to incorporate any springs into the Conley reference such that the spring applies pressure against the differential piston 25 would completely change the operation of the Conley reference and require significant redesign and experimentation in order to correctly balance the pressure applied against the piston 25. Moreover, because of the internal surface of the housing 3 against which the second return spring 79 bears, it would not even be structurally possible to arrange a hollow supporting body between a first return spring and a second return spring such that the first return spring applies pressure against the valve piston, while the second return spring *applies pressure against the differential piston 25*. Because of this significant change to the principle of operation of the Conley reference, there would be no apparent reason for one of ordinary skill in the art to attempt to modify the Conley reference as suggested by the Examiner. See *in re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

As explained above, the combination of prior art references applied by the Examiner do not teach or suggest all of the features recited in independent claim 17. Moreover, due to the

design and principle of operation of the Conley reference, the changes suggested by the Examiner would require extreme modifications and would completely change that principle of operation. Therefore, it is submitted that one of ordinary skill in the art would have no apparent reason to even attempt the combination suggested by the Examiner. Accordingly, it is respectfully submitted that independent claim 17 and the claims that depend therefrom are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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